SIEMENS

MM8000 MP4.10
Management Station

System Description

Building Technologies

Fire Safety & Security Products

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About this document

This document describes the MM8000 version MP4.10 functional and system capabilities. It explains the MM8000 fundamentals and user benefits. It also explains the basics of how the MM8000 can be integrated into your facility.

Document overview:

This document provides you with the information you need to determine whether the MM8000 fits your security needs. It is divided into five basic sections:

- A section defining common terms is located in the front of this document.
- Section 1 explains what the MM8000 is, and briefly lists system highlights, features and benefits.
- Section 2 details functional capabilities of the MM8000, and provides an overview of how to perform some common tasks.
- Section 3 describes in brief the MM8000 set-up and configuration process. It also describes the configuration and graphical tools available to tailor the system to your facility, and the significance and uses of the software protection hardware key.
- Section 4 details system capabilities of the MM8000. This includes the system architecture, including user interface features and site configuration options, as well as the system extensibility concept.

Note that this document does not provide detailed technical data of MM8000 MP4.10 interfaces and capabilities. In this respect, please refer to latest edition of the MM800 Datasheet.

Scope

This document applies to the MM8000 management station, version 4.10.

Target group

This documentation and the instructions herein are intended for the following users:

Project managers

The project manager is responsible for planning and managing a project at the customer site. He is the link between the operator/customer and the DU. He is in charge of local project management, and coordinates the schedules of all groups of people working on a project as well as resources. He also continuously obtains the technical information required for project realization.

Project engineers

The Project engineers provide the parameterisation of products, devices, and systems in the DU for a specific customer. They give the go-ahead for the commissioning of products, devices, and systems at the place of installation, and monitor the serviceability. They are also responsible for troubleshooting.

A Project engineer has had the training appropriate to his function and to the products, devices, and systems to be configured. He/she has also attended the appropriate technical training courses, and is familiar with the standard windows operating system environment.

Commissioning personnel

Commissioning personnel are responsible for the configuration of the products, devices, or systems for specific customers at the place of installation. They check serviceability, and officially clear the product, device, or system for use by the operator/customer. They are also responsible for trouble-shooting.

Modification index

Version	Date	Notes
A6V10062417_a_en	06.2007	Corresponds to MM8000 version 4.10
006883_h_en	06.2006	Corresponds to MM8000 version 3.20
006883_g_en	09.2005	Corresponds to MM8000 version 3.15
006883_f_en	06.2005	Corresponds to MM8000 version 3.12
006883_e_en	12.2004	Corresponds to MM8000 version 3.10

Reference documents

You can find the most recent version of the **MM8000 Operation Quick Reference Guide** in the STEP Documentation Repository System released at SBT FS for end-users via the STEP Web Client interface at the following address:

https://intranet.sbt.siemens.com/dbcom/en/db_porta/client.asp

1. Click on the "STEP WEB Client" image (see below).

2. Choose "04 Fire -3F" from the "Product Segment" box and select “Activate filter”.

3. Select “All” in the Documents section of the Quick Search page and select “Advanced Search”.

4. Enter the document number in the “Brochure No.” field (A6V10067779) and press “Enter”.

Hint: For a specific version, specify the Market Package as *MPn.nn* in the “Classification No.” field (e.g. *MP4.10*).

Note: STEP provides no results when the number of found objects is equal to or greater than 200.

Product and Document Name		**Document no.**	**Date**	**Last update**
Sales documents				
MM8000				
023	Product Datasheet	A6V10062415_a	06.2007	**MP4.10**
053	System Description	A6V10062417_a	06.2007	**MP4.10**
039	Sales Presentation	A6V10062423_a	06.2007	**MP4.10**
074	Sales Guide	A6V10062427_a	06.2007	**MP4.10**
074	Tender Specifications	A6V10062419_a	06.2007	**MP4.10**
074	Offer Template	A6V10062429_a	06.2007	**MP4.10**

MK8000				
023	Product Datasheet	A6V10062405_a	06.2007	**MP4.10**
039	Sales Presentation	A6V10062423_a	06.2007	**MP4.10**
074	Sales Guide	A6V10062427_b	06.2007	**MP4.10**

MT8001				
023	Product Datasheet	006952_e	09.2005	MP3.15
053	System Description	008605_a	09.2005	MP3.15
039	Sales Presentation	007346_b	03.2003	MP1.01
074	Sales Guide	007286_c	09.2005	MP3.15
074	Tender Specifications	007788_c	09.2005	MP3.15
023	Demo Material	008078_b	09.2005	MP3.15

NK8000				
023	Product Datasheet NK8223	A6V10062431_a	06.2007	**MP4.10**
023	Product Datasheet NK8222	A6V10062433_a	06.2007	**MP4.10**
023	Product Datasheet NK8225	A6V10062445_a	06.2007	**MP4.10**
023	Product Datasheet NK8225 PICS	A6V10062449_a	06.2007	**MP4.10**
023	Product Datasheet NE8000	A6V10062421_a	06.2007	**MP4.10**
023	Product Datasheet NK8021	A6V10075902_a	06.2007	**MP4.10**
039	Sales Presentation	A6V10062435_a	06.2007	**MP4.10**
074	Sales Guide	A6V10062439_a	06.2007	**MP4.10**

Technical documents				
MM8000				
073	Release Notes MP4.10	A6V10062455_a	06.2007	**MP4.10**
073	Release Notes MP3.20-03	A6V10075048_a	06.2007	MP3.20-03
073	Release Notes MP3.20-02	A6V10067812_a	04.2007	MP3.20-02
073	Release Notes MP3.20-01	009421_b	12.2006	MP3.20-01
073	Release Notes MP3.15	008901_b	09.2005	MP3.15
048	Autronica BSxx, ICC ad-on	008750_a	06.2006	MP3.20
048	LIST SCU 2000, ICC add-on	009248_a	06.2006	MP3.20
048	MAXSYS PC601, ICC add-on	008751_a	06.2006	MP3.20
048	CP100, ICC add-on	009848_a	06.2006	MP3.20
048	R Card M5 ICC add-on	A6V10064742_a	06.2007	**MP4.10**
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048	GEUTEBRUECK ICC add-on	A6V10067796_a	06.2007	**MP4.10**
029	Operation	A6V10062409_a	06.2007	**MP4.10**
022	Operation Quick Reference	A6V10067779_a	06.2007	**MP4.10**
048	Installation, Configuration and Commissioning (ICC)	A6V10062413_a	06.2007	**MP4.10**
022	Configuration Quick Reference	A6V10075052_a	06.2007	**MP4.10**
019	Localisation - Engineering guide	A6V10062459_a	06.2007	**MP4.10**

MK8000				
048	Release Notes for MP4.10	A6V10062459_a	06.2007	**MP4.10**
073	Release Notes for MP3.20	009423_a	06.2006	MP3.20
048	Installation, Configuration and Commissioning (ICC)	A6V10062407_a	06.2007	**MP4.10**

MK8000 Interface Specifications				
019	MK8000 OPC Server	004971_h	06.2006	MP3.20
019	CS11 EP5	004974_d	02.2004	MP1.31
019	CS11 EP7	007546_b	02.2004	MP1.31
019	FC700A	008596_a	12.2004	MP3.10
019	CS1115	009843_a	06.2006	MP3.20
019	FC330A	009842_a	06.2006	MP3.20
019	CS440	004973_b	10.2003	MP1.30
019	CS4	007078_b	10.2003	MP1.30
019	CZ12	007079_b	10.2003	MP1.30
019	CZ10	007080_b	10.2003	MP1.30
019	STT11	007081_c	10.2003	MP1.30
019	DMS7000	007082_b	10.2003	MP1.30
019	GW-20/NK8210	007122_b	10.2003	MP1.30
019	GW-21	007124_b	10.2003	MP1.30
019	MK7022	007125_b	10.2003	MP1.30
019	CK11 EP5	007126_b	02.2004	MP1.31
019	CK11 EP7	007129_b	02.2004	MP1.31
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019	NK8223 (CDI-Net)	007154_b	10.2003	MP1.30
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019	SI410 Sintony	008597_a	12.2004	MP3.10
019	CC60	007547_b	10.2003	MP1.30
019	NK822x	007879_b	02.2004	MP1.31
019	CF9000	007880_a	10.2003	MP1.30
019	SIMATRIX	007881_a	02.2004	MP1.31
019	Philips/Burle CCTV	008085_a	02.2004	MP1.31
019	SiPass	008607_a	03.2006	MP3.20
019	TELSCAN	009426_a	03.2006	MP3.20
019	SIMATRIX	009427_a	03.2006	MP3.20
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019	Video Camera	009429_a	03.2006	MP3.20

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073	Release Notes for MP3.15	008604_a	09.2005	MP3.15
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073	Release Notes for MP4.10	A6V10062457_a	06.2007	**MP4.10**
073	Release Notes for MP3.20-01	009422_b	12.2006	MP3.20-01
073	Release Notes for MP3.15	008902_a	09.2005	MP3.15
073	Release Notes for MP3.10	008602_a	12.2004	MP3.10
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073	Release Notes for MP2.10	007793_a	01.2004	MP2.10
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DMS8000 and Composer				
023	Composer Datasheet	A6V10062403_a	06.2007	**MP4.10**
054	Composer Technical Manual	A6V10062401_a	06.2007	**MP4.10**
022	Composer Quick Reference	A6V10067783_a	06.2007	**MP4.10**
048	Network and Subsystems Connectivity Guide	A6V10062425_a	06.2007	**MP4.10**
048	Access Control Connectivity	A6V10062451_a	06.2007	**MP4.10**
048	Video Connectivity	A6V10062457_a	06.2007	**MP4.10**
048	OPC Connectivity	A6V10065253_a	06.2007	**MP4.10**
048	Graphical Map Configuration	A6V10062441_a	06.2007	**MP4.10**
022	Graphical Map Configuration Quick Reference	A6V10069550_a	06.2007	**MP4.10**
016	Migration from DMS7000	A6V10062443_a	06.2007	**MP4.10**

Definition of terms

Advisory	A type of event. A notification that something has occurred that the operator should be aware of, but does not need to respond to in any way. For example, an Advisory may be triggered when the system changes from night mode to day mode.
Alarm	A type of event. A notification that there is a situation that may become a problem and escalate to Severe alarm, and requires immediate attention from the operator. For example, an Alarm may be caused by situations such as (but not limited to) a high concentration of smoke (more than a cigarette, but less than a fire), or sabotage of an intrusion detector.
Anomaly	A type of event. A notification that the state of a detector or group of detectors has changed, but doesn't cause any risk to security. For example, a section of fire detectors have been switched to test mode.
Assisted treatment mode	One of two possible event treatment modes in MM8000 (the other is Fast treatment mode). Assisted treatment provides complete event treatment support, including some or all of the following: treatment procedure checklist, interactive map of the facility, access to tools such as phone diallers, alarm printouts, event report generation. When there is a specific procedure that must be followed, assisted mode may be a required part of event treatment, and the event cannot be closed until the procedure checklist has been completed.
Control Unit	The physical panel (for example, CS11 fire subsystems) that is connected to a group of detectors. The control unit receives messages from and sends commands to the detectors. When a control panel is connected to the MM8000, it behaves as a liaison (or translator) between the detectors and the MM8000. It receives commands from the MM8000, and communicates them to the detectors, and it receives messages from the detectors and communicates them to the MM8000. The MM8000 supports different types of control units in the disciplines of fire and intrusion. Each type of control unit has a different set of terms to describe the hierarchical levels of the organisational structure it uses. At the lowest level are the detectors, which are organised into groups. These groups are organised into larger groups, and so on.
Day Mode	The normal daytime settings of the detectors in the plant. With intrusion, the detectors are typically 'unset'; with fire, they are typically 'manned'.
Disconnect	To exclude an individual detector.
Distributed System	One of the MM8000 architectures. In this solution, a set of networked stations can provide the system functionalities in different locations. Distributed system includes: One main station, providing the background tasks (servers) and - optionally - the communication tasks and user interface (client task). One or more client stations, providing the user interface. Optionally, one or more FEP (Front-End Processor) stations, providing extended communication capabilities. See also Single-station System
Element	Typically a detector, in the parlance of control units.
Event	A security situation that the operator either needs to be aware of, or needs to respond to. Typical event categories are: Severe alarm, Alarm, Fault, Exclusion, Anomaly, Non-default, and Advisory.
Event Counters	Any one of the seven boxes located in the event bar. (See Fig. 1 on page 14.) The event counter notifies the operator that there is a situation that either requires attention (in the case of Severe alarm, Alarm, or Fault), or that the operator should be aware of (in the case of Exclusion, Anomaly, Advisory, or Non-default).
Event Treatment	The actions taken in response to an event such as calling the police, turning off a detector, or filing a report. Event treatment can be *manual* or *automatic*, depending on the selection mode, *fast* or *assisted*, depending on the type of guidance provided by the system. Assisted treatment can be *guided* or *free*, depending on how the MM8000 is configured.
Exclude	To disconnect a detector or turn-off a section. Excluding a detector or section triggers an Exclusion.
Fast treatment mode	Fast mode allows for basic treatment and contains command icons for acknowledging, resetting, and closing an event.
FEP	Front End Processor. A dedicated PC that connects the server to the control units in the field.

Exclusion	A type of event. An Exclusion alarm occurs when the state of a detector or sections has changed creating a situation that could be a security risk, such as the disconnection of an intrusion detector that monitors a high-security area.
Fault	A type of event. A Fault alarm occurs when there is a technical problem or failure of a detector or other security equipment.
History browser	Detailed records of events, operator activity, and system behaviour are accessible through the history browser (by authorised users). The most common uses of the history browser are: creating monthly activity reports (usually on events); researching specific events; and analysing event behaviour (for example, to understand causes of false alarms).
Include	To turn-on a detector (or section) that has been excluded (turned-off).
Map	MM8000 can handle large graphic maps, representing an entire building floor with as many dynamic points as required. Maps can be navigated with zooming and panning controls. Maps are organised in multiple layers, which can be Background and Foreground layers. At least one background and one foreground layer are present in any map.
Night Mode	The normal night time settings of the detectors in the plant. With intrusion, the detectors are typically 'set'; with fire, the detectors are typically 'unmanned'.
Non-Default	A type of event. A Non-Default event is generated when a detector (or area, zone, etc.) is functioning properly, but has been switched so that it behaves differently from when it's in its usual (or default) state. For example, a fire detector that has been changed from normal to 'slow response' (renovation) mode would generate a Non-default event.
Operator	The person responsible for treating events using the MM8000. The operator is usually either a member of the security force, or the fire brigade.
Organisation mode	A block of time defined in the Scheduler, such as "open", "closed", "lunch", "weekend". The system may be pre-defined to behave in a certain way based on the type of organisation mode it is in. The start and end times for one or more organisation modes can be modified for any given day.
PAK	Product activation key: a 16-character code, associated to a hardware key (dongle) that enables MM8000 software to run and to perform.
Plant	The physical location being protected by the security detectors and controlled with the MM8000. Synonyms are: facility, site, building, area, etc.
Plant Browser	Each detector and security device in the plant can be monitored and controlled through the plant browser. The plant browser can be launched through the browsers option on the menu (located on the summary bar).
Reaction	Can be pre-configured when automatic responses and actions should be triggered by a change of state. For example, acknowledging a fire alarm could trigger an output module to stop the ventilation system. Reactions can also call sequences.
Section	A group of zones in the CC11, CZ10, CS440 and CS4 control units.
Sequence	A macro program. That is, a set of written steps or instructions. A sequence can be executed by MM8000 and perform a particular set of functions, started by a manual command, a time-driven program, or an automatic reaction.
Severe Alarm	A type of event. A notification that there is a life-threatening situation that requires immediate attention from the operator. A Severe alarm may be caused by situations such as (but not limited to) an armed robbery or a fire.
Subsystem	A control unit configured in the Composer environment.
Time program	A pre-defined function or set of functions the system performs based on the system clock and calendar. Time programs can be triggered by a change of Organisation mode, or when a specific time and/or date occur. In some cases, the execution time can be modified.
Turn-Off	To exclude a section or subsection (group of detectors).
Zone	A group of detectors (or elements). The term 'zone' is used with the following control units: CC11, CZ10, CS440, and CS4. There are two other control units that use different terms for the same concept. The ST11 uses the term 'function', while the CZ12 uses the term 'address'.

1 Introduction

The MM8000 is a professional management and monitoring system for integrating a variety of security and safety systems. Primary users of the MM8000 are security guards and members of the fire brigade. Other users are the shift managers responsible for investigating event history and the creation of analytical reports based on historical data.

1.1 MM8000 overview

The MM8000 management station is designed to provide a single, easy-to-use point of access to the entire security network used in your facility. Whether your security network is limited to a single floor, or it encompasses multiple buildings, the MM8000 allows you to monitor and control any area or device within the system from one place.

The MM8000 does the following: it can …

Help you with event treatment

In the case of a security event, the MM8000 alerts you to that event, furnishes important information, and provides guidance during the handling process.

Help you to monitor and control your site's security system

You can monitor or modify the state of a large area, a control unit, a single device or even a single device property. During routine activities such as maintenance or inspections, you can easily deactivate and reactivate specific areas and devices.

Be customised to meet your specific needs

The MM8000 fits in a wide range of custom applications where professional and accurate security and safety management is of the highest concern. The MM8000 can be applied for high-risk industries, large office buildings with sensitive operations, financial institutions, large museums, high tech industries, telecom operations, banks, and others.

Record the system history

The MM8000 records every action and event that occurs, and provides a powerful search engine to help you retrieve the data that you need to view and/or export for 'off-line' analysis.

Provide support for automated functions and runtime scheduled tasks

MM8000 macro sequences, reactions, and scheduler can help automate recurring and periodic functions. Some time-dependent actions can also be configured on-line.

Furthermore, the NK8000 interaction capability can provide safe and fast automated functions at network level, even without direct needs of management stations.

Support multiple connectivity to Siemens control units

The MM8000 can support the Siemens fire, intrusion and gas control units. Multiple connectivity solutions can be provided, including serial lines, redundant loops, and LAN/WAN networking.

Support Access Control Integration

In order to allow for a comprehensive security solution, the MM8000 can integrate the Siemens SiPass access control system. In the combined solution, the SiPass software is used for the specific access control configuration, whereas the MM8000 offers the harmonised event treatment and the general security management.

Support Video Integration

The MM8000 can also integrate the most important CCTV devices of the Siemens family, thus offering outstanding functionalities, e.g. video verification and site monitoring, for a truly comprehensive management solution.

Also, some 3rd party video components can be supported for specific solutions.

Openness via OPC standard

Engineering tools are provided with MM8000 in order to integrate units via OPC (OLE for Process Control). In this type of solutions, MM8000 operates as OPC client: it acquires field information provided by an OPC server and issues control commands through the same interface.

The OPC standard can also be used to connect to a higher level system that acts as an OPC client to control a wide range of building services. This architecture requires the MK8000 OPC server to be added to the MM8000 standard installation.

Notify event occurrences

Beyond the local presentation, events can be easily notified to the responsible personnel and to external organisations via SMS, e-mail, and ESPA-compliant pager systems.

Offer peace of mind on any scale

The MM8000 fits organisations to handle safety and security 24 hours a day. It can handle security and safety tasks for local, regional, or even national locations.

Integrate with products of DMS8000 family

The MM8000 architecture can integrate the MT8001 management terminal (check the specific compatibility versions) that can serve as an additional operation point (e.g. as emergency terminal), and the MK8000 OPC server can provide a standard interface to external head-end systems.

Support of Total Building Solutions

Besides the fire and security systems MM8000 can integrate Siemens building automation systems (DESIGO PX) for event management and thus provide a complete overview and a homogeneous operation for all the technical installations in a building.

1.2 Features and benefits

The MM8000 system offers the following features:

- **Flexibility** – The system can be built and configured to best fit your actual situation. MM8000 can be used with brand new installations, as well as to improve the performance of existing systems.
- **Scalability** – MM8000 will easily grow with your needs if support for more subsystems, disciplines, and stations are needed.
- **Reliability** – The MM8000 is based on the concept of autonomous subsystems and distributed control. Furthermore, redundant configurations can be implemented.
- **Security** – The operator will have access to exactly what you defined. Not less, not more.

The MM8000 offers the following benefits:

- **Safe** – The intuitive user interface helps users avoid mistakes;
- **Easy** – The user has full guidance for event treatment, or control of the site.
- **Open System Philosophy** – The use of widespread standards and state of the art technologies, in combination with the modular concept ensures that new features and functions might be added during the entire lifecycle of the product. The design of the MM8000 takes advantage of the latest products and technologies available to cover future needs.
- **Integrated solutions** – Fire and intrusion protection as well as video surveillance and access control are fully integrated in the MM8000 functions. Building safety and security can be completely controlled and coordinated by a unique system.
- **Openness** – Connection to head-end systems (e.g. BMS, Building Management Systems) is directly possible via OPC (MM8000 can optionally include the MK8000 OPC server).
  Also, integration with 3rd party field units is possible via local or networked OPC connection (MM8000 can be configured to handle OPC links as a client station) or via NK8000 network (a specific development kit called “NK8000 Open” kit is available).

2 Functional capabilities

This chapter describes important security tasks the MM8000 can do. It also describes some optional features, and tells how to perform some common tasks.

2.1 User interface

MM8000 user interface categories

The MM8000 user interface can be broken into six primary categories:

- *MM8000 Summary bar* – gives a fast overview about the current state of the system and acts as your entryway to the rest of the system.
- *Event list* – displays active events – you treat events from this list.
- *Plant browser* – helps you to control site systems and detectors.
- *History browser* – records every action and event that has occurred.
- *Scheduler* – uses the system calendar to control system behaviour.
- *Other Applications* – e.g. SiPass.

The MM8000 Summary bar provides status information at one glance and is your point of access to the rest of the system

The MM8000 Summary bar is located at the top of your screen and is always visible. It is made up of 7 event counters, the drop-down menu, and the mute sound button. When an event occurs, the corresponding event counter lights up.

The status of the system is visible at all times on the Summary bar. One icon displays the connections status between the MM8000 and the subsystems (two small computer screens). A second icon displays the status of the MM8000 internal software (two small blinking dots).

Fig. 1 MM8000 Summary bar

A	Workstation / User ID	Shows the workstation ID and the user ID of the person logged on.
B	Number of events	The number of current events of this type. In this case there is one alarm.
C	Alignment indicator	Displays the communication status between MM8000 and control units.
D	System Status	Indicates that the system is active when flashing green.
E	About MM8000	Displays which version of MM8000 you are using when clicked.

The event list is where you treat events

The event list displays a list of all open events. For each event, the list displays information about the nature of the event, the exact location where it occurred, and any other important information about the event or the area where it occurred. From this list, you can execute commands to treat the event.

Fig. 2 Event list

The plant browser is where you control systems and detectors

The plant browser contains a graphical display of all the detectors and cameras in your site. From the plant browser, you can review the status of the site, select and change the state of a detector, a group of detectors, or a single data-point.

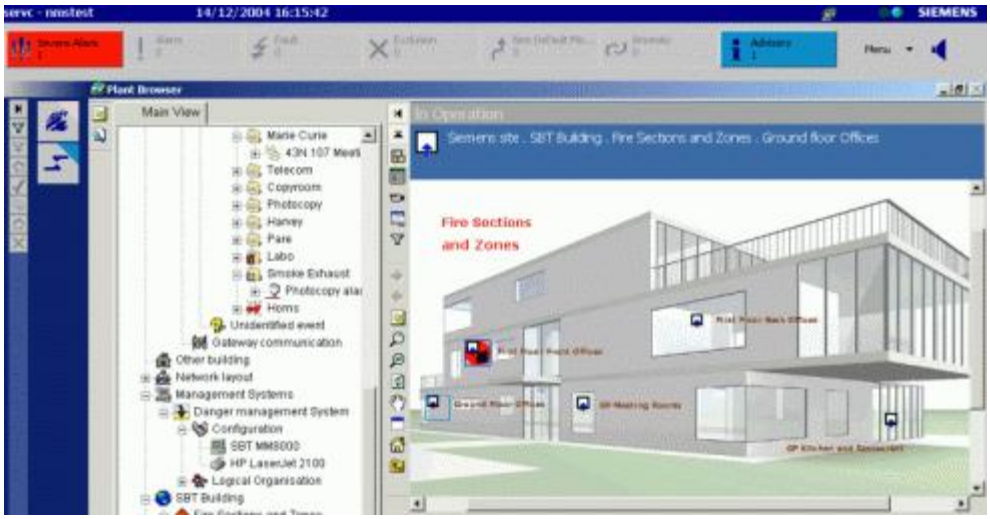


Fig. 3 Plant browser overview

The history browser is where you follow up on what happened

The MM8000 records and stores detailed information about events, how they were treated and other related data. The history browser provides access to that data through customised search and report functions. You can create custom report types and save them for reuse. You can export data for statistical analysis or review data on another computer. See the search query form in Fig. 4 below.

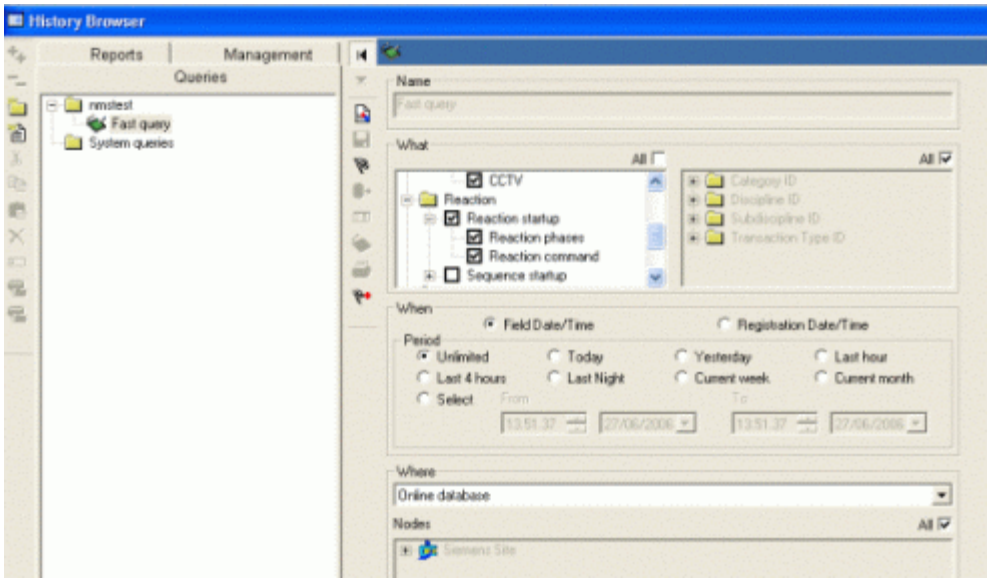


Fig. 4 History browser

The scheduler is where organisation modes and time programs are handled

Organisation modes are predefined and use the system calendar. An organisation mode can be a workday, night-time, holiday, lunchtime, or any block of time when the system must behave in a certain way.

Time programs specify when something will happen within the system. Macro programs called sequences are linked to time programs, and the time programs serve as triggers to activate the sequences. Sequences perform a series of functions automatically, thus supporting the operator and eliminating possibility of errors. Additionally, organisation modes can be specified within the time programs to more narrowly define them.

While periodic functions can be configured in the permanent configuration database, control tasks can also be quickly programmed on-line in order to enable the operator to easily address unexpected issues related to the safety and security operations.

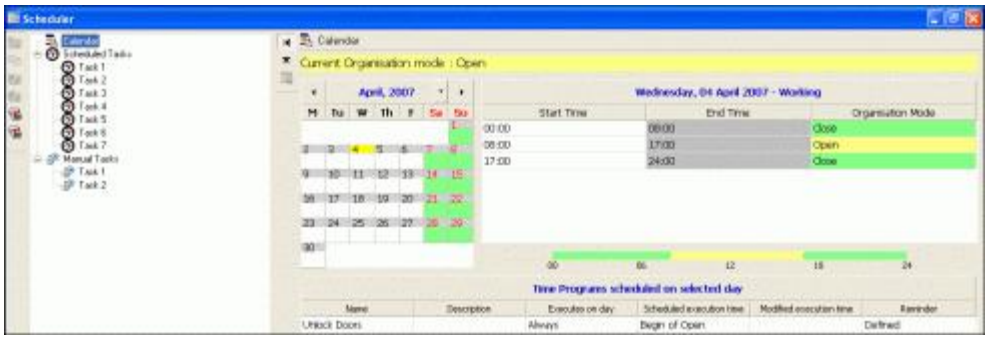


Fig. 5 Scheduler

The SiPass application can operate within MM8000

When integrated with MM8000, the SiPass Access Control software presents the same interface, shown in the working area. You configure the access control users and permissions using the SiPass software, whereas the event handling functions are taken on by MM8000.

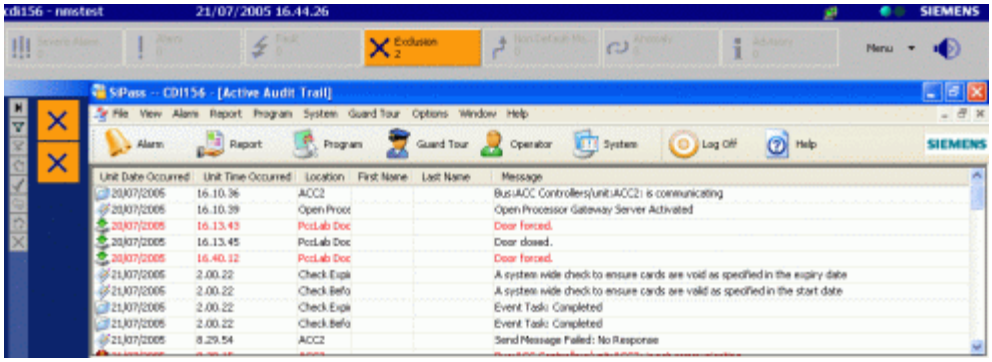


Fig. 6 SiPass application integrated with MM8000

2.1.1 Event announcement

Depending on how the MM8000 is configured, the following occurs when a new event is triggered:

- The event counter that corresponds with the event category becomes active.
- An audio message or horn sounds. This sound can be configured to change by category and risk level.
- A new event icon and event description display in the event list.

The operator can select the event manually, or MM8000 can be configured to notify the operator of the event in the following ways:

- An explicit message box display that allows the operator to go directly to event treatment.
- The new event is automatically selected and the treatment window is displayed.

In the event list, event icons are visible at all times and they are listed in order of severity, with the highest on the list being the most critical. After an event has been noticed, its level of severity decreases. When this occurs, its position in the list changes as well.

The event list displays events that have occurred

The event list shows the events that have occurred in the system along with important information about those events, such as time of occurrence. The *user profile* configuration regulates which events are displayed on the screen and which actions the operators is enabled to perform. The operator treats an event by selecting it from the list, and following the instructions provided by the MM8000. Optionally, the MM8000 can be configured to open the event automatically, by priority criteria.

→ For more information about event treatment, see 2.1.2.

Presentation of new events

Whenever a new event occurs, three things happen to ensure that the operator is aware of the change:

- The alarm horn sounds
- The corresponding event counter begins to flash on the summary bar
- A new flashing event icon appears in the event list

The MM8000 can also be configured to notify the operator of new events with a message box. From the message box, the operator can choose to accept the event and treat it immediately, or reject it, thus postponing the treatment.

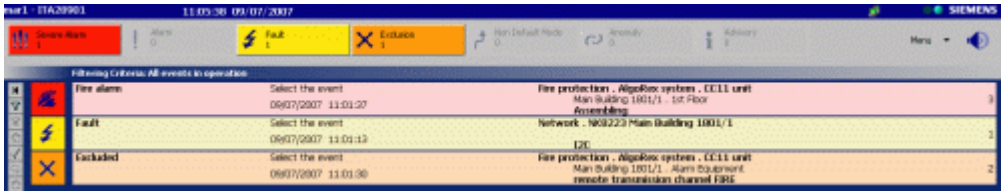


Fig. 7 Active event display showing event icons (on left) and event list

Event colour coding

All events do not have the same level of urgency. To help the operator easily distinguish the level of criticality of an event, events are colour coded by their level of severity.

EVENT TYPE	COLOUR
Severe Alarm (highest Level)	Red
Alarm	Magenta
Fault	Yellow
Exclusion	Gold-Orange
Non-default	Violet
Anomaly	White
Advisory	Light Blue

Maintenance-related events

In the MM8000 process, any part of the safety and security system can be set so that events originating from that area will be filtered out of the regular event list. The operator can then choose to view either the events generated by the area ‘In Maintenance’, or the ‘real’ events occurring in the rest of the plant.

This prevents distraction and wasted time on false alarms events caused by expected tests or other technical activities, which are clearly separate from real safety and security events.

Note that the field control units are not affected by the MM8000 maintenance mode and continue operating normally.

On request, MM8000 can show the events related to objects in maintenance mode. This station setting is identified by a symbol that indicates that the software is temporarily filtering out real events.

2.1.2 Event treatment

Depending on how the MM8000 has been set up, events may be selected for treatment either manually, automatically, or through a pop-up window that appears each time an event occurs. An automatic printout can also be provided on one or more pages with text and graphical information about the event that occurred.

Additionally, during event treatment, MM8000 is configurable to contain procedures that use system software such as phone diallers, or event dispatching via e-mail, SMS (Short Message System via mobile phone), or paging system (supporting the ESPA 4.4.4 protocol), and to use data available as HTML pages via Intranet, PDF-files, or other external applications.

Manual selection from the event list

The list of events is displayed in order of priority as described above (on page 17). Depending on how you choose to configure the system, the operator may choose which event to treat first, or may be required to treat them in order of priority. To select and treat an event manually, click the event icon.

Automatic display of events

A system configuration for this feature automatically opens the treatment window when an event occurs. When another event occurs during treatment, the current event treatment may be interrupted and suspended, depending on system configuration.

Optimised event treatment using built-in filters

Event filters are useful when there are a high number of open events, and the operator needs to identify events of a certain type (such as Severe alarms or Alarms that are waiting to be treated). A filter can help to more efficiently treat events.

Multiple events treatment

Filtered lists also allows for multiple event selection and treatment. This is particularly useful for acknowledging and resetting a large number of pending events related to the same source.

Remote event notification

Upon event occurrences, MM8000 is configurable to trigger an automatic event dispatching via pagers, e-mail, or SMS (Short Message System via mobile phone).

Alarm printouts

MM8000 can provide an automatic printout with textual and graphic information concerning any event that occurs in the system. Whenever an event occurs, the system can print the event texts and/or the associated graphic pages and maps. Alternately, the printout may be executed manually as one of the steps in the assisted treatment operating procedure. (See section 2.1.4.)

Operator notes

All details concerning an event are recorded. These details are called event treatment protocol. Operators can view event protocol and optionally add a note to any of the treatment actions or add a note entry of their own. This function allows keeping track of all occurring conditions in an easy way.

Two treatment modes available – fast and assisted

There are two ways or modes you can use to treat an event. They are called “fast” treatment and “assisted” treatment mode.

Fast treatment mode is the default mode for many sites and provides quick access to a basic set of commands for treating the event. When assisted treatment mode is also available, fast mode can be used to *quickly acknowledge and suspend* events when multiple events are active simultaneously, while assisted mode should be used for event treatment.

Assisted treatment provides a set of treatment tools designed to assist the operator with event treatment. Assisted mode can be set to behave in two ways: ‘guided’ or ‘free’. With guided treatment, the operator is guided through a series of treatment steps, which can be set to be mandatory.

These steps can vary depending on the event type and time of occurrence so as to provide a specific, context-sensitive guidance.

The event will remain open until these steps have been completed. With free treatment, the operator is free to choose from a set of tools, as he deems appropriate in that situation.

The assisted treatment tool list includes:

- Starting a Windows application
- Displaying an assistance text.
- Starting a secured (limited) web browser and show an HTML page.
- Showing the graphic map associated to the alarmed point.
- Printing out the treatment instructions and graphics.
- Showing live and recorded video images of the alarmed area.
- Starting the Windows dialler for supporting a phone call.
- Sending out an e-mail or SMS message, or a paging call.
- Providing for a report form to fill in.

2.1.3 Fast treatment mode

The fast treatment window is composed of three main sections:

- Command icons
- Command text
- Event description

The command icons (on the left) become available for selection in the order that they should be selected. (See Fig. 8.) For example, the acknowledge icon is available when you first open the event, while the reset icon does not become available until the reset command is possible.

The command text is usually a brief description of the next action to be taken by the operator. For example, ‘Acknowledge the event’.

The event description contains details about the nature of the event, and where it occurred, for example, ‘burglary’ and ‘Main building, 3rd floor, east wing, conference room’.

- **To enter fast treatment,** single-click the event icon located in the event icon area on the left side of the monitor.

Treating multiple events in fast mode

When treating an event in fast mode, you can open a second event in fast mode without manually suspending the first. To auto-suspend the first event, single-click the new event icon. This opens the fast treatment window for that event.

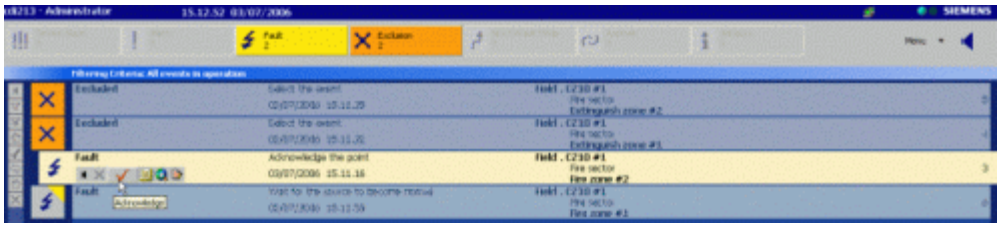


Fig. 8 Fast treatment mode window

2.1.4 Assisted treatment

The treatment area is composed of the fast treatment window above, and the guided treatment checklist and information display underneath. (See Fig. 10.) Commands are always performed in the fast treatment window, while guidance and information is provided in the windows below.

- **To enter assisted treatment,** double-click the event icon located in the event icon area on the left side of the monitor.

2.1.4.1 Assisted treatment tools

Map display and navigation

You may have an option in your procedure checklist to “Verify the map”, or “Check graphic map”. When you click the text of this step, a map appears on the right. The event description gives a textual description of where the event is taking place. The map shows you where the event is happening on a map of the facility. It also allows you to go to the cause of the event, and send commands such as exclude.

The following table shows the icons available that you can use in the map display, with a brief explanation of what they do.

Navigation Icon	What it does
Next page	Goes to the next page if there are multiple pages on the map at the same level.
Previous page	Goes to the previous page if there are multiple pages on the map at the same level.
Point properties	Opens the point properties page to see more information, and to perform commands on the item selected.
Zoom in	Magnifies the current view.
Zoom out	Reduces the current view
Pan	Slides the map around on the page.
Aerial view	Produces a pop-up window with an overview of the entire map. You can change the area of focus by dragging the blue cross to move the square around the map.
Depth up	Shows a more general level of information. For example, from the zone to the section, or from the element to the zone.
Depth down	Shows a more detailed level of information. For example, from the section to the zone, or from the zone to the element.

Intranet HTML pages

The guided checklist may include the access to HTML pages – available on a local or remote Intranet - that can provide text or graphic instructions for dealing with dangerous situations.

Dialling assistant

One of the steps in the guided procedure can be the launching of a dialler software application. The dialler allows telephone calls to be made with a few clicks for remote assistance, as well as the recording of the audio conversation in the history archive for subsequent retrieval.

Event dispatching

Another step to alert the appropriate authorities may be to send event information via email, SMS, or a paging system. E-mail addresses as well as phone and pager numbers are predefined in the Windows Address Book so that important information can be sent automatically or selected manually by a simple click.

The Address Book can be easily modified at runtime by authorised users.

Alarm verification via CCTV

Live and recorded CCTV images can be played during treatment providing immediate alarm verification. The camera covering the alarmed area is selected automatically and the corresponding images are directed to the screen.

Appropriate video devices can also provide a direct alarm generation originated by motion detection sensors.

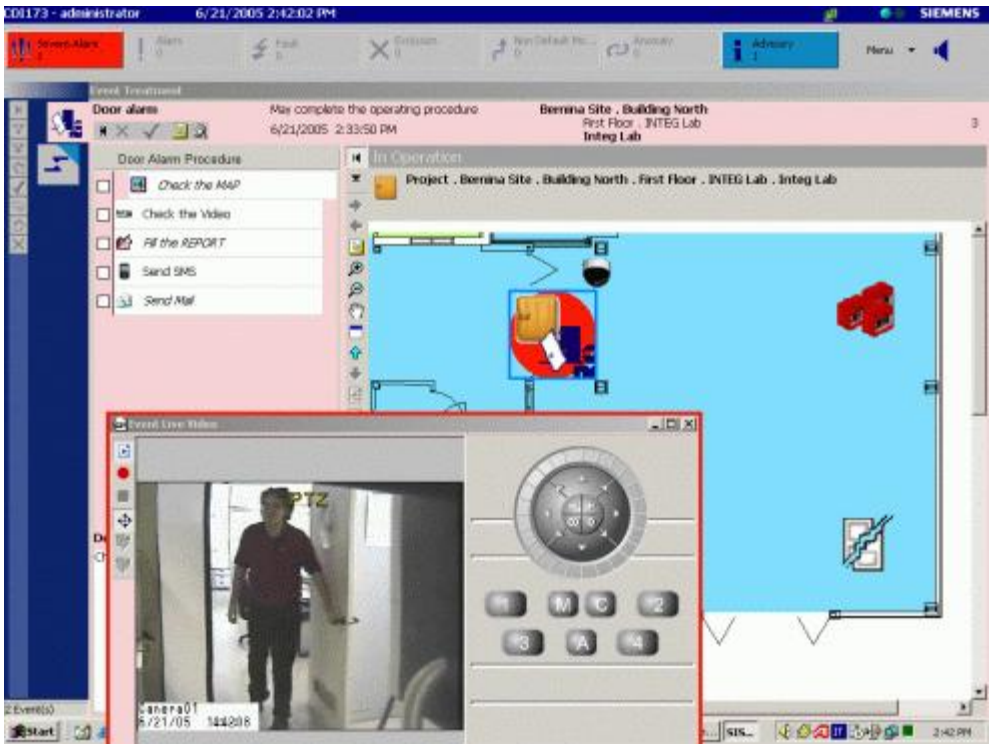


Fig. 9 Alarm verification

The following table shows the icons available that you can use in the video control, with a brief explanation of what they do.

Video control icon	What it does
Show life video	Start displaying the streaming video images as they are received from the camera
Search recorded video	Search and then display a recorded video file (**1**)
Start recording	Start recording video images into a file (**1**)
Stop recording	Stop recording video images into a file (**1**)
PTZ controls	Open a control panel for PTZ camera controls (Pan / Tilt /Zoom) Note that the same commands are available on the video image itself via mouse commands (**1**)
Next camera	If applicable (more cameras are associated to the current point), select the next camera
Previous camera	If applicable (more cameras are associated to the current point), select the previous camera
Reset camera	Resets a camera if a motion detection event occurs. **Note:** SISTORE CX cameras only.
1) Depending on the hardware configuration, recorded video and PTZ controls may or may not be available. Video recording requires a DVR (Digital Video Recorder).	

Alarm printouts

Treatment steps and graphic maps can be printed out automatically or upon request in order to provide the operator for a hard copy of the operating instructions.

Report forms

If this option is a step of an assisted treatment procedure, a form appears on the right when you click the text in the checklist. Complete the required fields and click the check box when finished. The report automatically compiles and no further action is required.

Event protocol

The event protocol, displayed upon request during guided assisted treatment, contains the complete event history, including the event generation, the subsequent changes of status, the operator's commands and the treatment step executions.

Sometimes it may also be necessary to add a note to the action history of an event. A single action may be annotated in the protocol list, or the event itself may be annotated. The ability to perform this action is dependent upon the specific rights granted to the current operator.

2.1.4.2 Assisted treatment modes

Assisted treatment offers two ways of providing assistance to the operator: free and guided.

With free treatment, a series of treatment tools are made available for the operator to use, as they deem appropriate to the situation. Actions performed during free treatment are not recorded in the history browser.

With guided treatment, a treatment procedure checklist is provided and some or all steps in this procedure must be completed before the event can be closed. All actions performed during guided treatment are recorded for review in the history browser.

Guided mode

The treatment checklist, a step-by-step list of instructions that you should follow for a specific event, is the heart of guided treatment. As you select a step on the left by clicking the text, information related to that step displays on the right. For example, if you have a step requiring you to check where the event occurred, when you select that step in the list, a map displays in the window to the right. Once you have performed the step, you check it off in the checkbox, and go on to the next step.

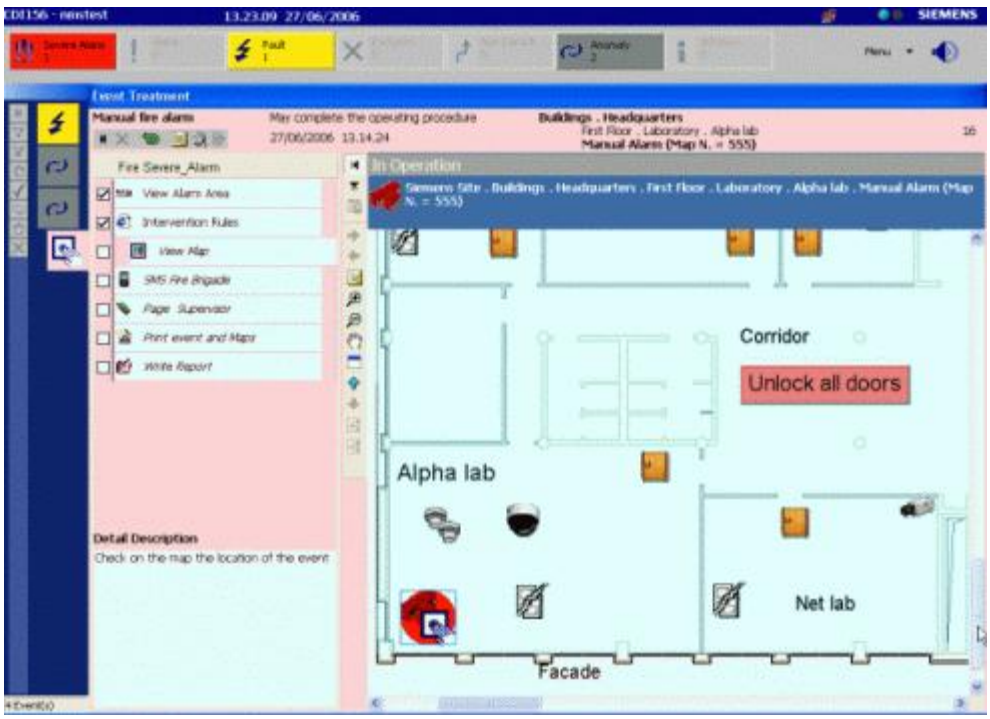


Fig. 10 Assisted treatment mode window – Guided treatment display

Free mode

The free treatment can provide the tools described above for guided treatment – namely graphics, intranet pages, dialler, e-mail/SMS dispatching, and report - but without a guided checklist. Instead, the tools are available on the toolbar for the operator to select them as desired. (See Fig. 11.)

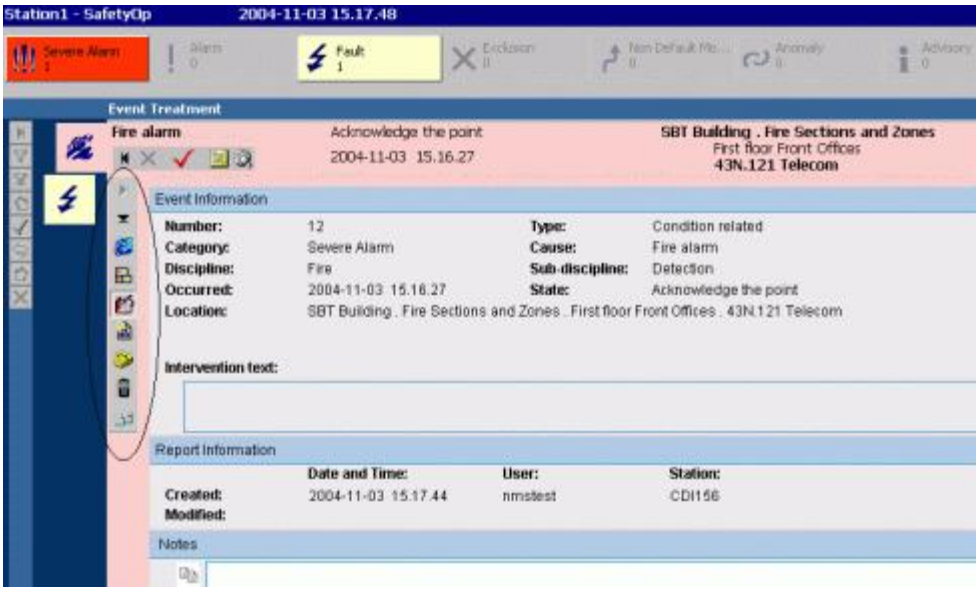


Fig. 11 Assisted treatment mode window – free treatment display (tools on left)

2.1.4.3 Treating multiple events in assisted mode

While treating one event in assisted mode, another event can be opened and treated in fast mode (single-click) at any point without manually suspending the first event. The first event is automatically paused and frozen in its current state, and the second event overrides the first and is available in fast mode. Once the overriding event has been acknowledged and suspended, the first event will automatically return to the screen in the same state as when it was paused.

This feature is particularly useful when, for example, you are treating an event in assisted mode, and a less urgent event such as a fault occurs. By single-clicking the fault, the first event can be frozen in place. You can quickly acknowledge and suspend the fault, and then return to assisted treatment of the first event with minimal loss of time.

2.1.5 Plant browser

The MM8000 Plant browser is the tool for navigating through the various levels of your facility. It provides comprehensive information about the subsystem hierarchy of all the available sites. The MM8000 Plant browser allows you to view detailed information about your security management system.

The Plant browser allows you to manage all the MM8000 points configured in the installation, and to navigate through the pages of the plant. Its main purpose is to dynamically report the state of the MM8000 points, and let you issue any necessary commands. The data points can display additional information such as properties and states.

The following are some common types of tasks you would perform using the MM8000 Plant browser:

- Checking the status of an area
- Show live CCTV images of an area
- Unlock a door
- Turning a section off or on (exclude or include)
- Disconnecting a detector (or group of detectors) to prevent false alarms from being generated
- Putting a section into 'Test' mode
- Switching a detector, zone, or area off-duty and on-duty
- Switching an area between day and night modes

What you see when using the Plant browser

The information displayed on the left side of the monitor is organised similarly to that found in Windows Explorer. While the organisation of each plant varies from company to company, different folders in the "Explorer"-type window or "hierarchical tree" usually represent the main areas of the plant. For example, if your plant has multiple buildings, a separate folder may represent each building. In each folder, you should find the control units that monitor that area.

Geographical, Logical, and Physical trees

The Plant Browser allows for multiple views of the safety and security subsystems and devices managed by MM8000. Three types of inter-related views are supported:

- Geographical View: shows the geographical layout of the detectors in the facility by building, floor, section, and room. This view is geared toward operators who need intuitive and simple access to the safety and security devices;
- Logical View: shows how detectors are conceptually grouped, using levels such as areas, sections, and zones, as they are used in the local safety and security subsystems;
- Physical View: shows the hardware units, lines, and devices for technical purposes; the physical view represents the system structure for technical maintenance operations.

Each operator group profile can be associated to one of these views. When they open the plant browser, the associated view will be their **preferred** (default) viewAlso, customized filter can be setup and saved individually by the operators in order to always provide the preferred view on the plant.

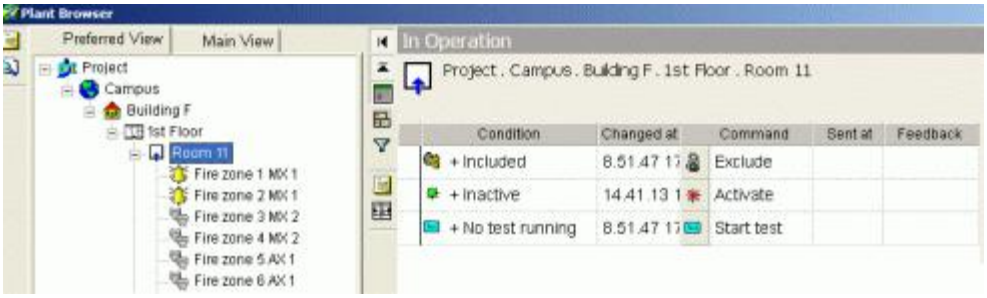


Fig. 12 Plant Browser – Multiple Views (geographical view is currently selected)

Object status and control

The information displayed on the right side of the monitor is in an area called the “information window”. You use this area to issue commands. For example, it may be necessary to deactivate or to exclude a device. You perform this task from the information window. (See Fig. 13.)

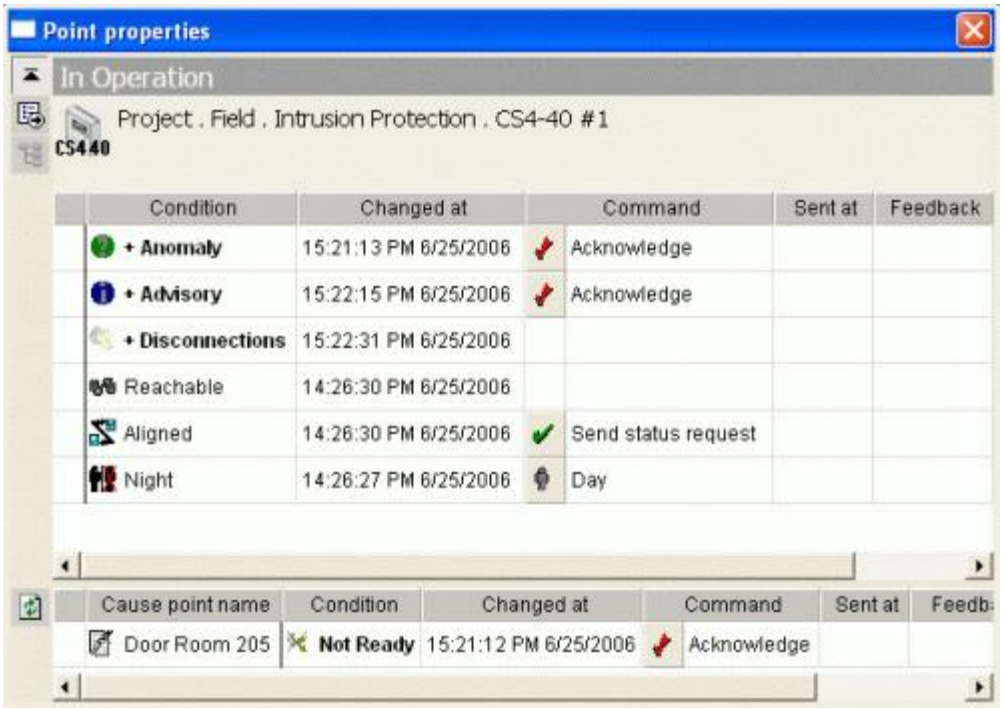


Fig. 13 Information window example

Navigating in the Plant Browser

There are two possible ways to navigate in the Plant Browser. They are text view, and map view.

- In text view, you use the hierarchical tree on the left to locate an area or detector, and perform commands from the text in the information window on the right.
- In map view, you move through the facility on a virtual map. (See Fig. 14.) You identify the area or detector that you are interested in, and perform commands on that area using the Point properties page, which is similar in appearance to the information window in text view.

  Note: In map view, using the hierarchical tree is optional.

The following example illustrates the easy navigation with the Plant browser in map view:

→ You start at a high system level, such as a building, where you select the floor, find the room you want, and finally get to the room itself.

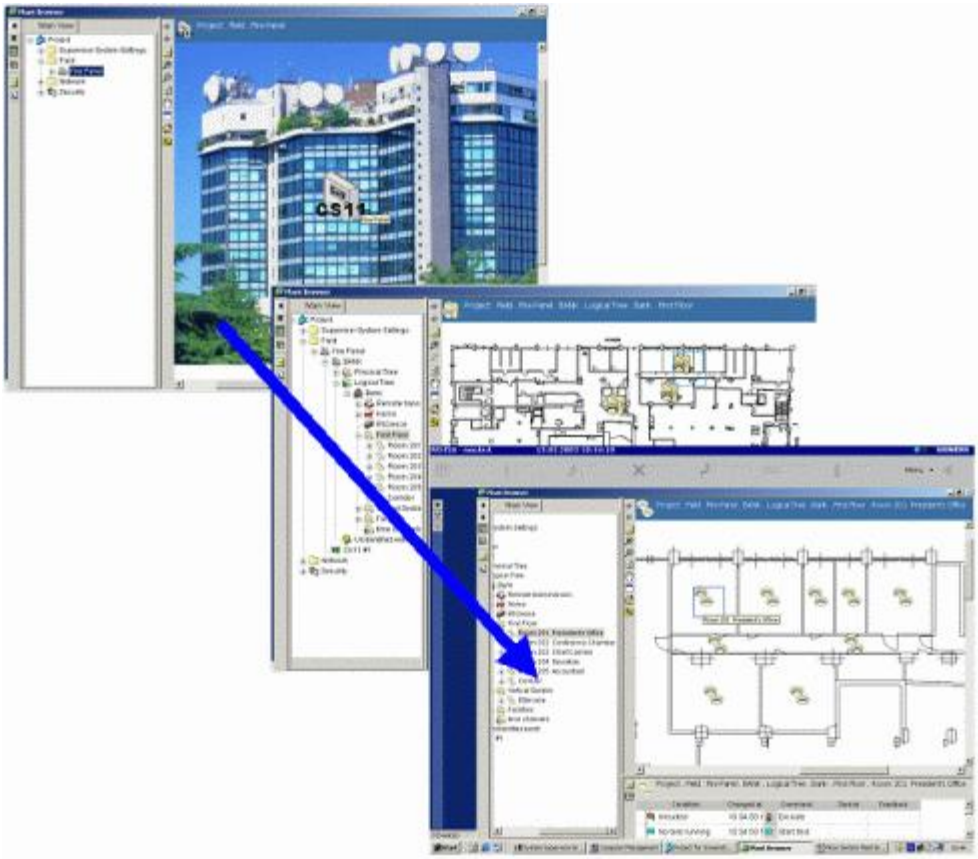


Fig. 14 Navigating in the Plant Browser

Video integration

Live and optionally recorded video are also available in the plant browser. The navigation tree and the graphic maps include camera objects that can be selected to display video images in relation to specific events or for general status verifications.

Fig. 15 MM8000 Plant browser with video integration

Access control integration

The access control objects (doors, readers, etc.) are available in the plant browser. The object status is displayed in text and graphic mode and a basic set of commands (e.g.: lock/unlock doors, allow access) is directly provided.

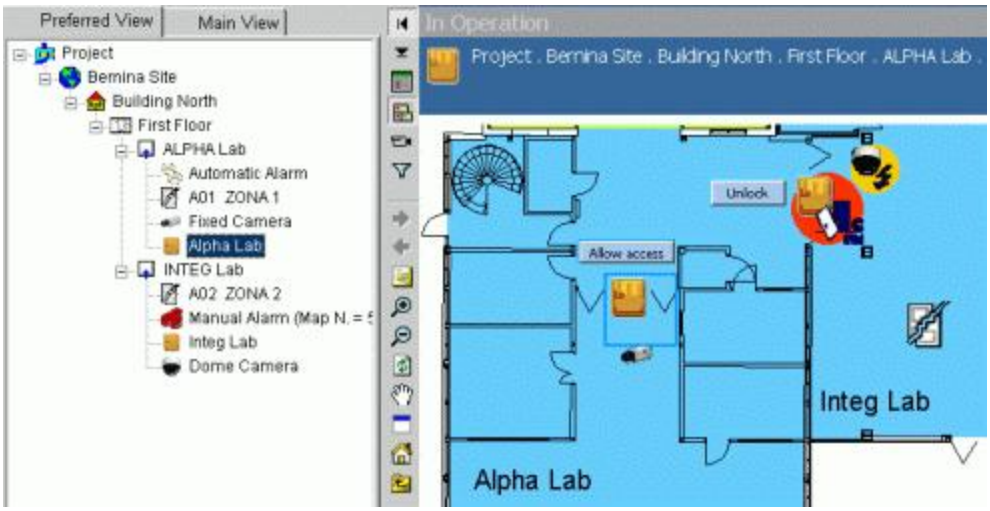


Fig. 16 MM8000 Plant browser with access control integration

2.1.6 History browser

MM8000 records every event and action that occurs. It provides a powerful search engine that retrieves the data you need so you can export it for 'off-line' analysis, or archive it for later use.

Following up with the History browser

The MM8000 records and stores detailed information about events, how they were treated, and other related data, including audio (phone calls) attachments. Use the History browser to access data through customised search and report functions. The historical data can be exported for statistical analysis or review on another computer. You can create customised report templates, and save them for reuse when creating a report. The History browser also enables you to create data archives that can be reviewed at any time.

The History browser provides access to *History Server recordings* enabling you to perform complex and extensive interrogative tasks. These features are designed to carry out ordinary system management tasks, as well as to support and speed-up diagnostic activity during unexpected situations.

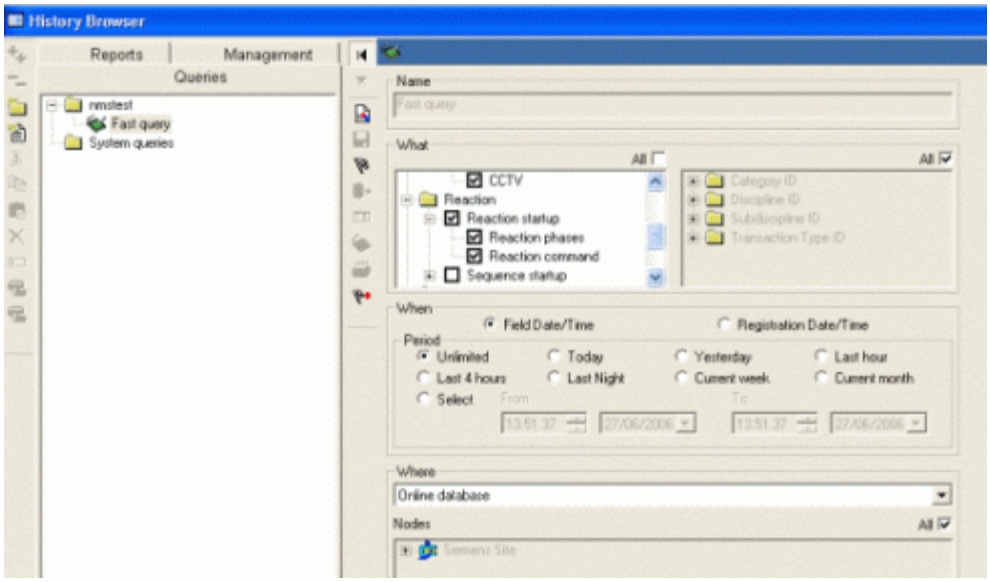


Fig. 17 MM8000 History browser

Design custom reports and share them with others

Reports are generated by defining a template or query. Queries can be saved and reused for quickly generating the same type of report on a recurring basis. Queries can also be shared with others.

Once a report has been generated, you have the option of modifying the appearance of that report. For example, you may want to group data by event category (Severe alarm, Alarm), and then by discipline. When you have your report the way you want it, you can save it in your personal folder, or you can share it with others by putting it in the general folder.

Note: Shared queries / reports are defined by the system administrator and made available to authorised users.

2.2 Operating modes

The MM8000 application can be set up to run in one of the three operating modes: *closed system, modified closed,* or *open system*. Closed system is the default configuration.

2.2.1 Closed system

In a *closed system,* the client station is a fully dedicated security and safety station, meaning that the MM8000 application is the only application that can be launched on the station. When launched, the MM8000 takes control of the station and the user cannot launch any applications.

2.2.2 Modified closed system

In a *modified closed system*, predefined applications can be launched through the Operator's menu. Individual user permissions determine which applications are available.

2.2.3 Open system

In an *open system* the client station functions as a half-dedicated security and safety station, meaning that the MM8000 application runs along with other applications that are launched directly from the desktop. In this case the MM8000 does not take control of the station.

Note: The MM8000 Summary bar (top bar) and the event icons (left column) are always present independent of the operating mode and other applications.

2.3 Automatic reactions

The MM8000 system supports the creation of automatic reactions, i.e. it can be configured so that when a specific situation occurs, a command or series of commands is automatically executed. Reactions can be used when automatic responses and actions should be triggered by a change of state, for example, acknowledging a fire alarm could trigger an output module to stop the ventilation system.

An MM8000 reaction is composed of trigger(s), the input conditions, and the corresponding effect(s), the actions that we want to execute.

The reaction triggers can be a change of state in a property of a point (e.g. a fire or intrusion conditions), or a transaction (e.g. access control). You can define more than one trigger using either AND, OR, or XOR logic.

The reaction effect can include as many control actions as required, including wait and loop statements as well as calling macro sequences and VB scripts.

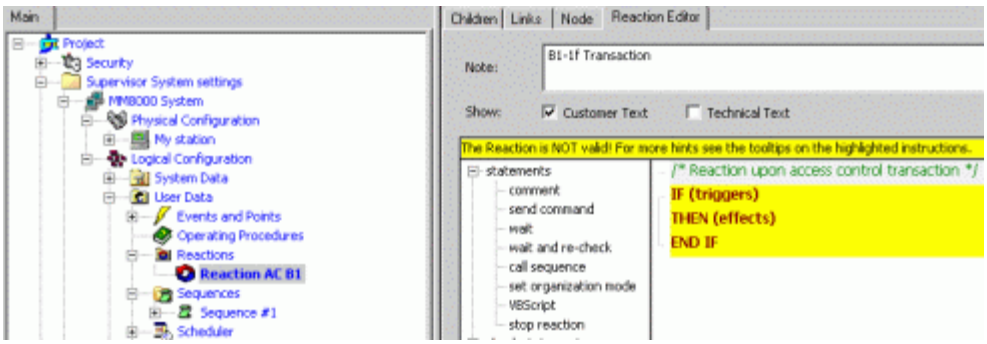


Fig. 18 MM8000 reactions

2.4 Sequences

A sequence is a macro program, i.e. a set of written steps (instructions) entered with a guided editor. Once programmed, sequences can be executed by MM8000 and perform a particular set of functions, started by a manual command, a time-driven program, or an automatic reaction.

The instruction set includes action and control statements as well as declarations of local variables for storing intermediate results (Fig. 19). Also, VB scripts can be launched in order to execute external tasks for addressing very specific needs.

Therefore, MM8000 sequences can perform quite complex tasks, thus simplifying the safety and security operations.

In spite of their powerfulness, sequences are simple to define, thanks to the guided editor and to coloured text presentation.

Fig. 19 MM8000 sequences: instruction set

The MM8000 can support different ways to execute a sequence:

- **Manually, from the Plant Browser**: the sequence can be started from a target symbol, presented as a point in the Plant Browser. A sequence point can assume the quiet state, indicating that the sequence is not running, or the active state, meaning that the sequence is running.
- **Time-related condition**: the sequence is started when a specific time condition is verified or when a change occurs in the organisation mode of the building; in this case the sequence is the result of a *time program.* (See 2.7.)
- **As a result of a reaction**: the sequence acts as the effect of a *reaction* (see 2.3); when the related triggers are verified, the reaction effects (the sequence) can include a call to a sequence.

2.5 Local and network-wide interactions via network devices

For high security applications, MM8000 can provide interactions between subsystems on the network level. These interactions are performed via NK822x network devices.

As with reactions (see section 2.3), the functional interactions generate one or more commands when a given event or change of state occurs.

Local interactions between subsystems connected to an NK822x are possible on any of the NK822x Ethernet Gateways. Network-wide interactions between subsystems connected to other NK8225s are possible on the NK8225 with BACnet Gateway.

Since interactions are executed at a lower hierarchical level and on highly reliable units, they are more secure than reactions and sequences on the management station level, and perform even if the MM8000 is not running.

→ For NK822x product details, see the corresponding datasheets (refer to the “Reference documents” section on page 5).

2.6 Scheduler and organisation modes

The scheduler is where organisation modes are managed based on the system time and calendar. An organisation mode can be a workday, night-time, holiday, lunchtime, or any block of time when the system must behave in a certain way. Additionally, organisation modes can be colour-coded to easily distinguish among them.

For example, after defining open and closed modes in the scheduler (when people are present and when no one is present), the system can then be configured to exclude intrusion sections during open mode, and include them during closed mode.

Some scheduler settings are also adjustable during runtime for fast and easy modification, e.g. for changing the type of day, or a starting time.

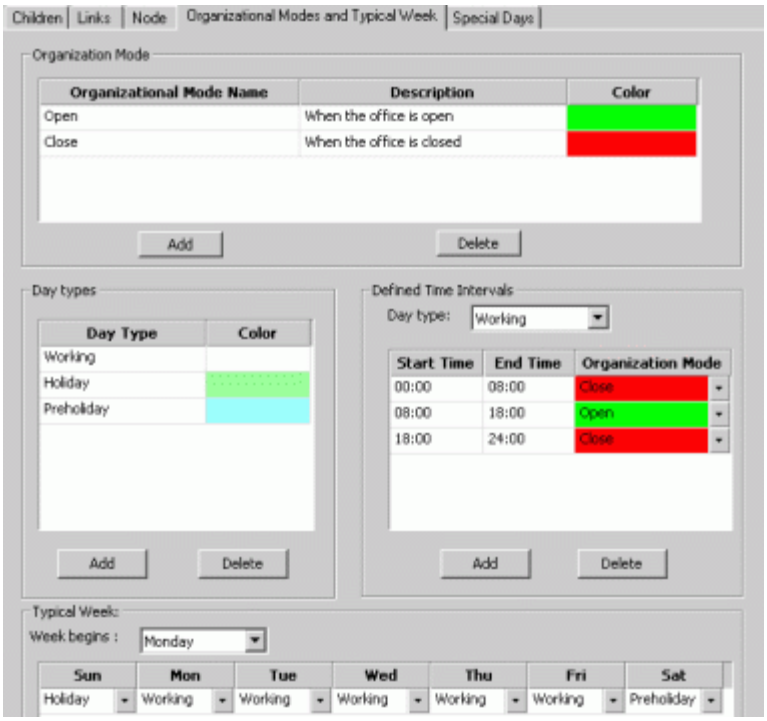


Fig. 20 Defining organisation modes in the scheduler (in Composer)

2.7 Time programs

Time programs specify when something will happen within the system. Sequences are linked to time programs, and the time programs serve as triggers to activate the sequences. Time programs can be defined to occur once, on a certain type of day (such as “Working”), or to be repeated weekly or annually. Also, the exact time of day when a time program is executed can be specified, or it can be related to the beginning or end of an organisation mode.

A reminder can also be programmed in order to show a message on the screen and/or send SMS/e-mail message before the time program starts.

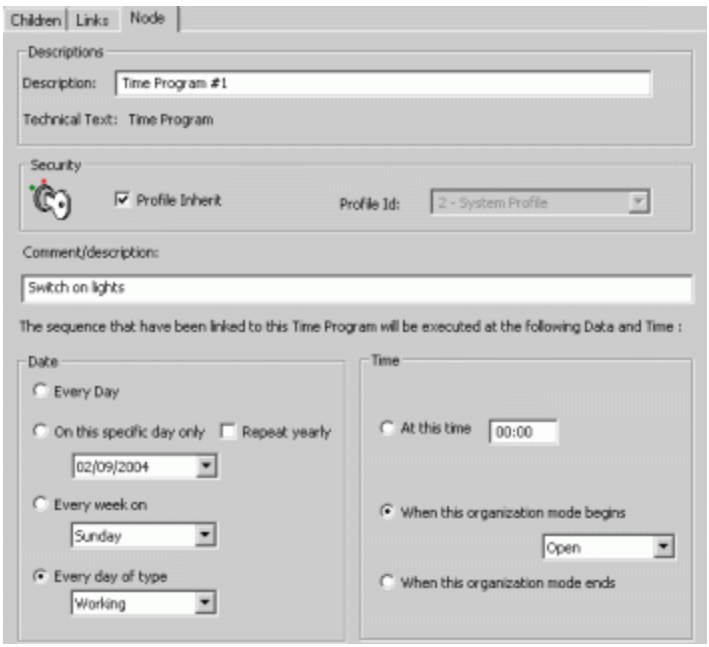


Fig. 21 Defining a time program

2.8 Scheduled and manual tasks

On top of the Organisation modes and Time programs, which are permanent configurations defined with the Composer tool (see 3.1), MM8000 allows for time-scheduled functions to be defined at runtime.

You can both define *scheduled tasks* for functions you want to occur on a specific date, or those you want to recur on either a regular or periodic basis, and *manual tasks*, when you want to perform basic commands (such as include/exclude) on a detector or group of detectors regularly, but when the time of day or day of week vary.

Once defined, scheduled and manual tasks can be modified or deleted at a later date. As for time programs, reminders can be configured so as to show a screen message and/or send SMS/e-mail message before the scheduled task starts.

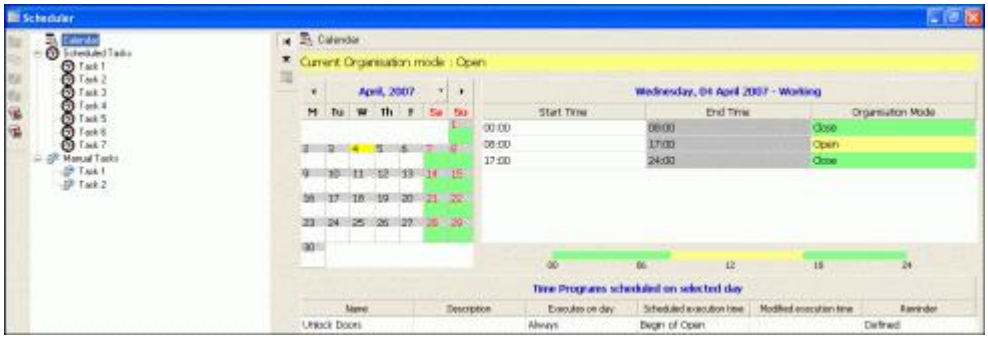


Fig. 22 MM8000 Scheduler – scheduled and manual tasks defined

2.9 Printing functions

You can configure MM8000 printers to be local or networked. Printers can be configured to be used for:

- Journaling: Printout of each event change-of-state;
- Alarm printouts: Hardcopies of event-treatment text and graphics;
- Reporting: Various report printouts.

All are configurable using the Composer configuration tool.

→ See section 3 on page 39 for Composer details.

Journaling

Journaling configuration offers one of four possible outputs. They include:

132x60 Line Printer Full/Compact	Printout template for 132-column line printer.
A4 Page Printer Full/Compact	Printout template for A4 laser or ink-jet printer.

Alarm printout options

The alarm printout configuration options list includes:

- Paper Size: A3 or A4;
- Orientation: Portrait, Landscape, or automatically oriented depending on the printout;
- Number of printed copies;
- Printout outputs formats.

2.10 Field connectivity

The following describes the different automation level connectivity configurations available for MM8000.

2.10.1 Serial

Serial connectivity on COM ports is possible via RS-232and Cerloop (via MK7022 interface device).

2.10.2 LAN/WAN

LAN/WAN connectivity is possible via NK822x (NK8000 Ethernet Ports), “Serial to LAN” adapters (e.g. LANTRONIX UDS1100) or directly, whenever possible.

2.10.3 Dial-up via network devices

Dial-up lines are possible via modem (AT modems: digital, analog, or GSM) as a secondary or backup connection in the event the primary IP network is down, or as a primary connection if no IP network is present.

Modems connected to the MM8000 management station communicate with modems connected to NK822x network devices, thus enabling communication to and from subsystems whenever necessary.

→ For details, see the DMS8000 Application & Planning Guide (STEP #A6V10063710).

3 Product set-up & configuration

When the MM8000 is installed at your site, it needs to be configured for your specific facility. The WW8000 Composer™ was developed for this purpose. Composer is an easy-to-use configuration tool that makes the process of customising the MM8000 for a site fast and easy.

3.1 Composer – the integrated configuration tool

The configuration tool named WW8000 Composer is used to configure all FSP-DMS systems.

WW8000 Composer enables configuration of both the general MM8000 user interface appearance and behaviour, and system functionality. Configuration data from existing control units can be quickly imported into Composer providing configuration personnel a single uniform tool for all configuration activities. New or additional functionality can be quickly added for each product configuration.

Also, Composer enables you to:

- Filter for disciplines, objects and object types to permit you to focus on that information you're interested in (e.g.: a detector or zone of a certain type).
- Zoom to concentrate only on needed details.
- Search for key words, like descriptions or CSX numbers.
- Sort text and properties.

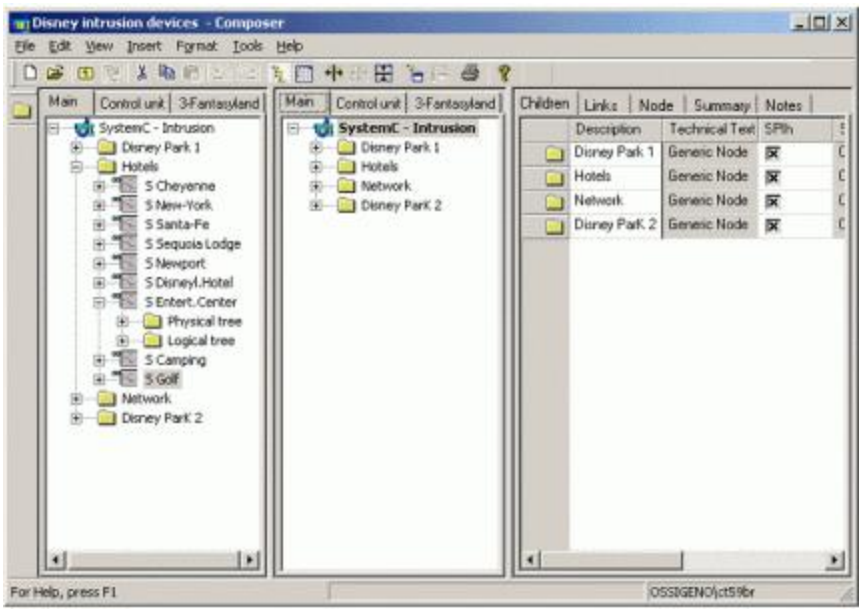


Fig. 23 A multiple tree view in Composer

Flexible data views

A site can include hundreds or thousands of objects, like detectors, zones, maps, etc. For easy orientation, you can choose between different data views as you work with a project. The following is a list of the views from which you can choose:

- *Tree View*: Shows the hierarchical structure of the project, (in a similar way to MS-Explorer®). You can choose between a general view, technical view, or both.
- *Edit Grid*: Shows a group of nodes and allows a fast configuration similar to an MS-Excel® spreadsheet. You can display or hide columns according to your needs.

- *Node View*: Shows the properties of a single node.
- *Links View*: Displays all linked nodes, and allows navigation between linked objects.

Templates

Each MM8000 project comes with project templates for setting up a number of different architectures.

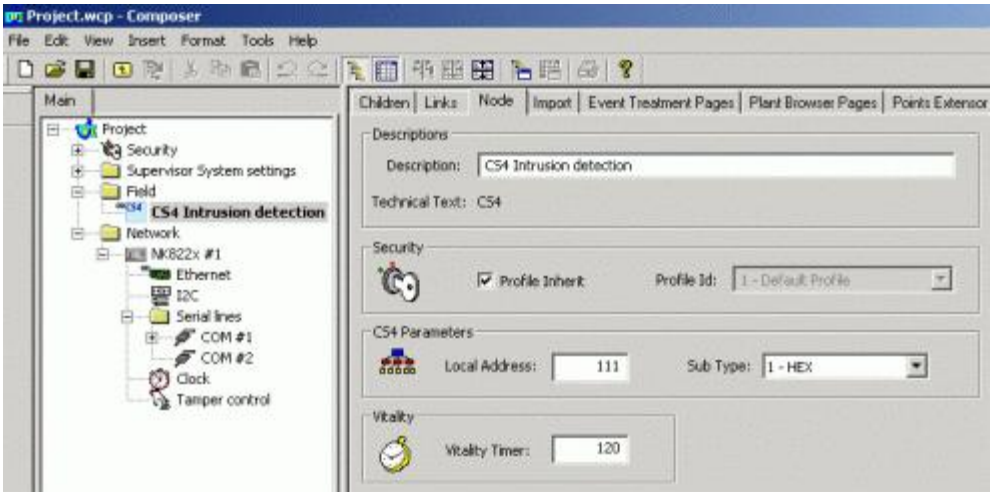


Fig. 24 The Composer with the property page for a selected node

Standard print reports

The Composer offers three different kinds of standard reports you can print:

- *Project Structure Report*: Outlines the project tree;
- *Brief Report*: Shows the project tree with the properties contained in the first sheet of the Edit Grid;
- *Complete Report*: Contains all detailed information contained in a project.

Configuration data reports

MM8000 configuration data can be exported on CSV (Excel) files with specific report options:

- Maps - Points associations
- Points not included in any graphic map
- Operating procedures - Points associations
- Points not included in any operating procedure
- Reactions - Points associations
- Points not included in any reaction
- Sequences - Points associations
- Points not included in any sequence

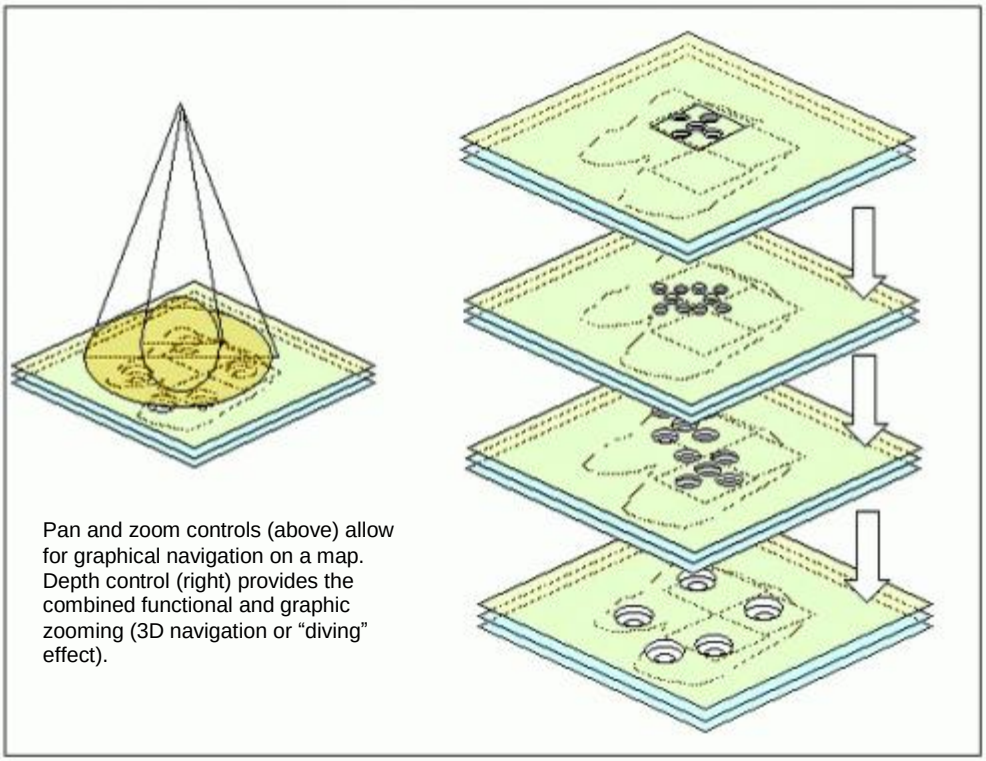
Download

Once you have configured the project off-line, download the configuration to the MM8000 server. During the download process, all the information needed for the MM8000 system is transferred from the configuration environment to the run-time environment.

3.2 The MapMaker™ - creation of graphical pages

To harness the power of the geographic display and navigation available through the MM8000 user interface (during event treatment and in the Plant browser), the configuration environment comes equipped with a graphical tool called MapMaker.

With MapMaker you can work directly with your company's AutoCAD (or similar) drawings creating layers of information which will then be presented to the end-user as different levels of detail, as different types of information (for example, a fire layer and an intrusion layer), or a combination of both.



Pan and zoom controls (above) allow for graphical navigation on a map. Depth control (right) provides the combined functional and graphic zooming (3D navigation or "diving" effect).

Fig. 25 Graphical navigation and depth control

3.3 Software protection hardware key

Composer and its Plug-ins are software protected with a single hardware key, and one or more PAK's (Program Authorization Key). The same hardware key can also be used for the MM8000. For ordering details, refer to the price list.

4 System capabilities

The MM8000 system offers solutions for a wide variety of topologies, enabling the system to be tailored to specific requirements. MM8000 is built to be completely scalable. It can cover a wide range of applications, from small to large installations, including single or multiple business activities managed by one or more operating stations. It is designed for use on small and reduced configurations, as well as on very large and highly redundant configurations.

4.1 Architecture

This section describes MM8000 system, software, and security architecture. It also describes user interface features, and site configuration options.

4.1.1 System architecture

Conceptually, the system is composed of 3 levels:

- Management level
- Automation level
- Field level

Each level supports different configurations. When combined, these levels compose the overall system configuration.

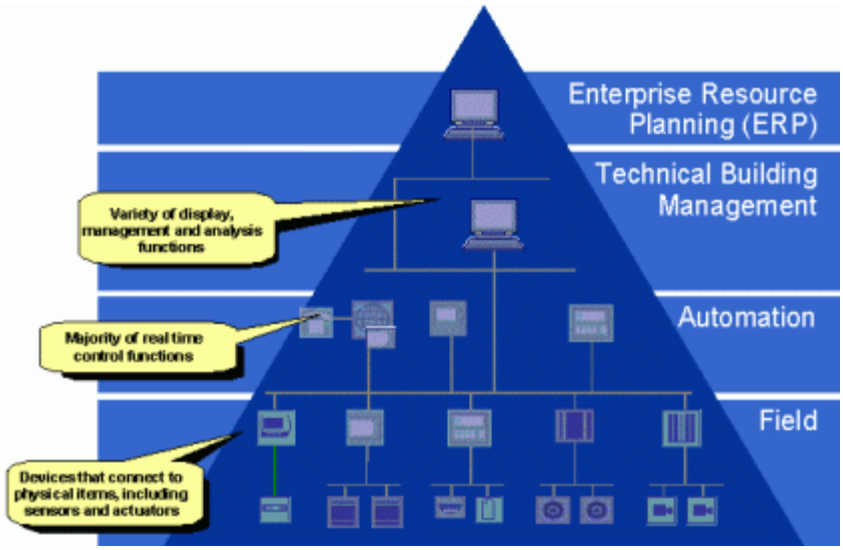


Fig. 26 System levels

Management level

The Management level contains the stations where the MM8000 system processes run. At this level, the configuration can range from a single-station to multi-stations (or a set of identical stations) up to multiple stations in a client/server architecture.

Automation level

The Automation level defines the network topology, or how the management and field levels are connected. It uses star and loop networks.

Field level

The Field level is where the elements are connected using detection and control loops.

4.1.2 Software architecture

The MM8000 system is based on client-server architecture and runs under Windows 2000, XP, and 2003 Server. The MM8000 management station software is object-oriented and has a modular structure. The use of key technologies and openness are very important factors as they guarantee a significantly longer lifetime of the investment.

MM8000 includes the following standard technologies:

- MS Windows® operating system
- True client/server approach
- LAN technologies supported by Windows (preferred network protocol is TCP/IP)
- MS SQL™ Server database engine
- Open architecture with standard interface for HTML support
- OPC server interface for head-end systems
- OPC client interface for field subsystems

The MM8000 software is composed of three layers:

- Communication layer: This layer is responsible for the security network communication with the field devices (subsystems)
- Server layer: This is the core layer for the evaluation of processes and system services
- Client layer: This is the layer that provides the user interface

Each layer is separated from the others by a clearly defined software interface. Each interface can be accessed locally and/or remotely.

4.1.3 Security architecture

MM8000 allows complex criteria for defining user access and privileges. This limits user access only to functionalities they are entitled to as operators. Only authorised users have access to the MM8000 system. When a user logs in, the system checks their user profile to determine the applications, functions, commands, and/or services to which they have access, the events they will be allowed to treat, and the sites that they will be able to browse.

Controlled user access

Operator access can be limited to applications, sites, and subsystems. Operators can also be grouped according to their tasks (for example, guard, guard manager, site operator, site manager, system administrator engineer). Each user has a dedicated set of privileges. To control user access to MM8000, three types of access privileges are available:

- *Application privileges* - A user's access to an MM8000 application can be defined by privileges individually assigned (or not) to all major application access functions. Disabled functions still appear in menus, but are greyed out. Buttons associated with a disabled function are not displayed at all. The application privileges for each user also include the authorisation to start up and shut down an MM8000 application.
- *Site privileges* - Sites can be defined, to which pages can be assigned. Access to defined sites can then be enabled or disabled for a given user. This makes it possible to split the total system responsibility between several operators.
- *Subsystem privileges* - The system can be set up to allow a variety of possibilities for access to the subsystems at the controller and field device levels.

Restricted user access

If a user has not been assigned the necessary privileges to perform a given operation, this is indicated in one of the following ways:

- *The associated menu option or button is "greyed out" (dimmed)*. This allows the user awareness of what function is behind the control, but access is prohibited;
- *The associated menu option or button is invisible to the user*. In this case the operator gets no additional information for functions he has no access to;
- *The user receives a message indicating that the operation cannot be performed*. This clearly indicates that the user has no right to the selected function.

Controlled access to Windows applications

Authorised users can access selected Windows applications through the MM8000 menu. These applications can be used for security operations as a complement to the MM8000 software.

4.1.4 User interface features

The user interface is compliant with the Microsoft Windows standard, making the appearance of the user interface familiar and intuitive. Many parts have been enhanced and specially designed for efficient management system needs. Information provided by most of the applications is displayed in a browser-like window, with the left pane containing the navigation methods, and the right pane displaying the topic. The various MM8000 programs are designed to make operation easier by providing a uniform “look and feel” wherever possible.

The application settings

The settings of the MM8000 application can be customised to suit both system administrator needs, and user preferences.

- *Multiple windows interface:* The MM8000 application is designed so that several browsers, as well as add-on applications, can be present and active on the screen at the same time.
- *Multiple monitor support*: latest Windows versions support multiple monitor display devices and monitors on a single system. The MM8000 can take advantage of this feature and provide a 2-screen interface.
- *Sound support:* The MM8000 application uses sound to notify the user of important events. For announcing the events, the MM8000 allows different audio files to be configured, up to four sounds per category.
- *CCTV support*: Live CCTV images can be shown on the MM8000 screen to provide additional and direct information on the alarmed areas.
- *SiPass Access Control integration:* The MM8000 can be configured to integrate the Siemens SiPass access control software, thus providing an integrated safety and security solution.
- *User profiles and interface customisations:* Profiles and customisation options can define the various facets of the MM8000 user interface and provide safe operations. These configuration options can be set up at three different levels: system, station, and user.
- *Additional windows applications:* Windows compatible applications can be accessed through the MM8000. These applications are associated with the MM8000 during configuration.
- *OPC server services:* an OPC server (MK8000) can be configured in MM8000 in order to provide a standard interface for OPC compliant client systems or stations.
- *OPC client services:* MM8000 includes OPC client functions that allow connecting to local or networked OPC servers to acquire field information and issue control commands towards 3rd party control units.

Logging in/out and exit

Log-out lets all background activities in MM8000 run, but no user actions will be possible until a user logs in again. Exit will terminate the MM8000 client on the management station.

Adding user accounts

A convenient way to create or add user accounts is to add users to one of the user groups. Members in a group are automatically granted the access rights set by the group definition and can be granted additional rights individually with the Composer configuration tool.

This strategy, which conforms to the user administration of Windows, simplifies user administration, and makes it easier to grant multiple users access to designated functions. This also gives a much better overview of how the access rights are distributed among the users.

Printouts

MM8000 can provide journaling logs and alarm-related printouts on local and network printers.

The help system

MM8000 provides on-line help and tool tips. They are described below:

- *Online help:* This is supported through a menu item or by pressing F1. It provides an on-line searchable set of information. Like the operation manual, it contains an introduction to the different areas in the MM8000, and instructions on how to perform all the tasks.
- *ToolTips* These are simple text labels that provide brief information about various items in a program. They normally appear automatically when the cursor is positioned over a specific item on the screen, and describe, for example, icons or button functions.

Localisation

MM8000 user interface can be fully translated into any language supported by the Windows software (check specific version in the latest Release Notes) and by the localisation tool Catalyst by Alchemy Software (→ www.alchemysoftware.ie).

4.1.5 Hardware architecture

The following describes the different site configuration options you have with the MM8000. These configurations can be for one or multiple stations, or sites. They are:

- Stand-alone configuration
- Peer-to-peer configuration
- Basic client/server configuration
- Advanced client/server configuration
- Redundant client/server configuration

Stand-alone configuration

The simplest MM8000 station configuration is the stand-alone configuration. It is used with small sites that use few control units, and require only a single operator station. The station can be either single or multi-discipline.

In the stand-alone configuration, there is only one station, which contains all the software layers that make up the system (Client, Server and Communication).

The station can be connected to any Communication level configuration over the LAN connection (NK8000 / Access control / Video networks) or through its COM ports (up to 4). (See Fig. 27.)

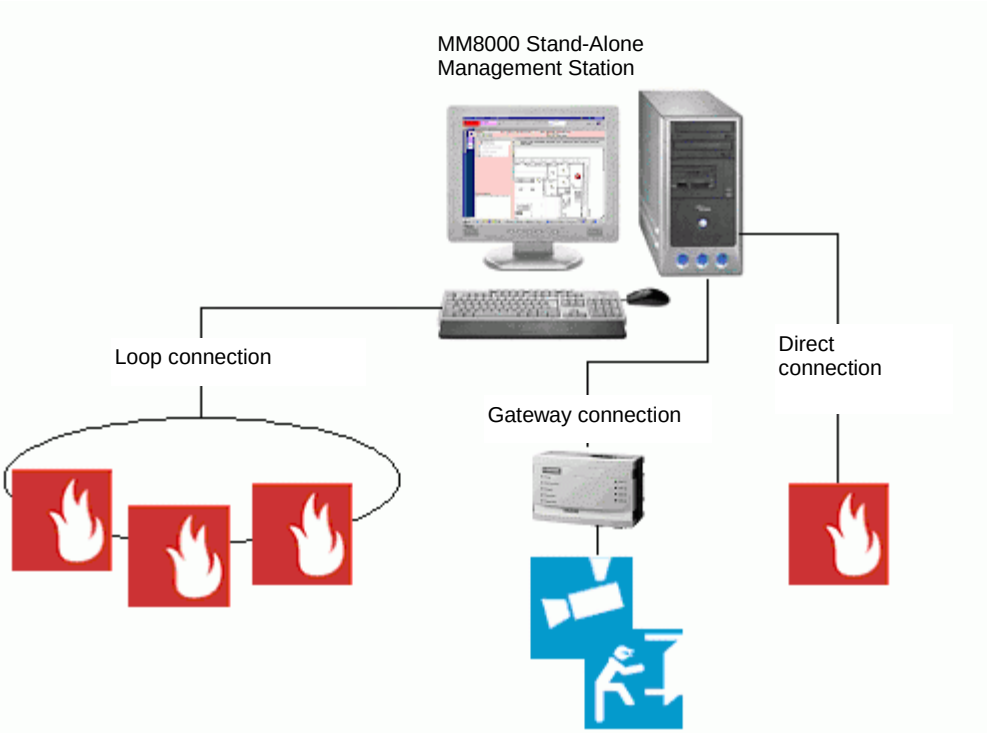


Fig. 27 Stand-alone configuration

Peer-to-peer configuration

More MM8000 stations can operate in parallel in the so-called “peer-to-peer” configuration. This ensures the simplest redundant solution.

Each station is actually a stand-alone, and therefore contains all the software layers (Client, Server and Communication).

The stations can be connected to the Communication level configurations, e.g. NK822x Ethernet ports, which allow multiple routing. (See Fig. 28.)

Fig. 28 Peer-to-peer configuration

Client/server configurations

In the stand-alone configuration, the station is required to contain all the MM8000 software layers. In the Client/Server configurations, the MM8000 can distribute its layers on different machines.

The Client/Server configuration is used for large sites with multiple control units. In these types of configurations, one or more communication server machines are connected to the Security Network. This offers the possibility to build large installations with a flexible architecture. Several clients containing a flexible combination of applications are connected to the server through a LAN.

There are three different distributed configurations available:

- **Basic distributed configuration**: In this configuration, a main station provides for the server functions, including local and networked (NK822x) communication. Then, one or more stations running the client are connected to the server. Each Client machine may contain any subset of the MM8000 applications. It is possible to have stations running only the basic modules – for example, those devoted to surveillance only – and stations with a more complete set of tools, such as the Plant and History browsers used by engineers or supervisors. (See Fig. 29.)

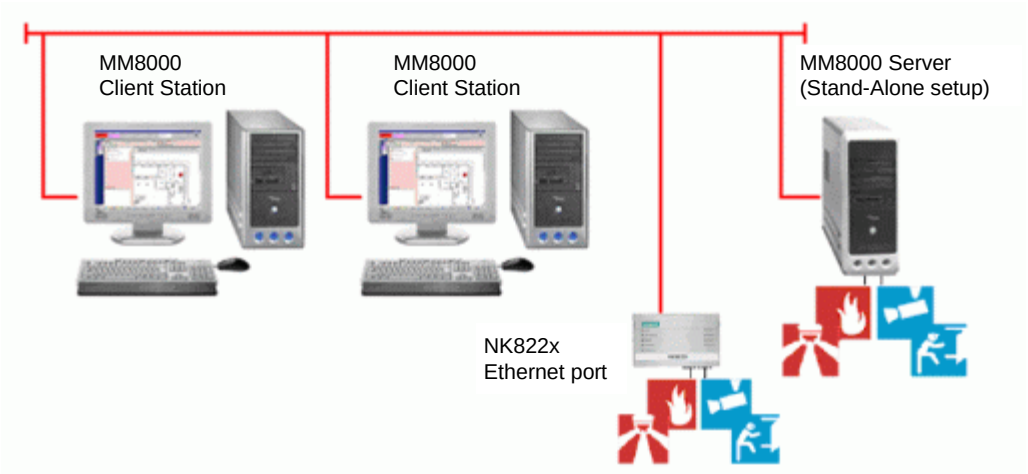


Fig. 29 Basic distributed configuration

- **Advanced distributed configuration:** In this configuration, the server layer and the communication layer are installed on separate machines. (See Fig. 30.) One or more front-end machines can be installed for a large connectivity over LAN.

Fig. 30 Advanced distributed configuration

- **Redundant distributed configuration:** For maximum reliability, the server hardware can be doubled. (See Fig. 31.)
  In this solution, the field connectivity is based on NK822x network units.

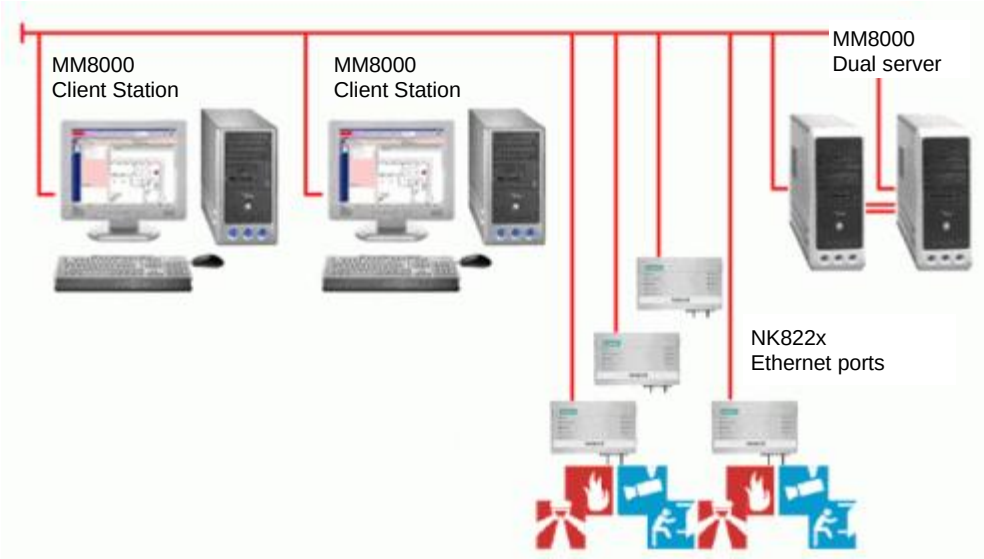


Fig. 31 Redundant distributed configuration

4.2 Extensibility

As market needs and technologies change, the MM8000 is continually evolving to meet them. New functions are added, and existing ones are improved. New versions will be made available through upgrade procedures.

Also, the MM8000 architecture is designed to give the following extensibility capabilities:

- Extended configuration options are available for modifying configurations of users and stations, as well as the behaviour and appearances of the user interface.
- Configuration can be performed by customer if customer's organisation requires this.
- Openness for supporting new 3rd party field devices.

In case of proprietary protocols, a *development kit* and the related technical documentation can be provided to authorised development teams in order to develop and support the interface and configuration software for integrating a new subsystem (in general a new control unit) into the MM8000 system. The communication interface can be implemented either on the MM8000 station or in the NK8000 network devices, whereas the configuration software has to be developed as an extension to the Composer environment.

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